

REMARKS

Examiner's Action of 6 August 2009 in response to Applicant's amendment mailed on 20 April 2009 has been reviewed. Claims 11-14, 16-20, 22-34, 36, and 37 have been rejected. In response, claim 37 is proposed to be amended. Applicant appreciates the fact that the Examiner did not make the Action final for the reason articulated on pages 8 and 9 of the Action.

Rejections of Claim 37 Under 35 U.S.C. 112

Claim 37 has been rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. Applicant has amended the claim to remove the limitation for which the Examiner found insufficient support in the specification. Applicant respectfully requests that the Examiner enter this amendment and, in view of the amendment, to remove this ground for rejection.

I. Rejections of Claims Under 35 U.S.C. 103

The Examiner has rejected claims 11-14, 16-20, 22-34, and 36 under 35 U.S.C. 103(a) as being unpatentable over Brånemark (U.S. patent 5,171,284) in view of Lemos (U.S. patent 3,979,829) . Applicant respectfully traverses this ground of rejection.

A. The Prior Art

Brånemark discloses an anchoring element for supporting a joint mechanism, a method for applying an anchoring element within the bone, and a reconstructed joint (column 1, lines 13-16). In operation, referring to Fig. 3, the part of the long bone close to the joint is cut, thus exposing the marrow cavity (column 4, lines 16-17). Subsequently, "sleeve-like body 5 is

screwed down into the marrow cavity through the guide sleeve 11” (column 4, lines 24-25). It is apparent that this process is hand-driven and a small number of revolutions of threaded body 5 is required to fully seat the anchoring element within the bone marrow cavity. The Brånemark anchoring element is provided with slits 8 and 9 (Fig. 4) to provide good deformation of the element during insertion and thus minimize the risks caused by concentrated stress on the bone (column 3, lines 56-59). In addition, these slits permit bone cuttings produced during the insertion process to enter the interior of the element, as shown in Fig. 5. Brånemark suggests that the slits may be provided with cutting edges but does not provide any teaching as to the nature of such edges (column 3, lines 63-65).

Lemos discloses a machine-driven apparatus for preparing a tooth stump for a crown. Lemos’ cutting tool features a frustoconically shaped, hollow body member which can be readily manipulated by the dentist in which the cavity area of the body is coated with abrasive matter which provides the means for removal of tooth matter to shape the tooth stump as desired (column 2, lines 16-26). Thus the tooth-material removal process used by the Lemos invention is abrasion using a machine-driven rotary device, which devices generally operate at high speeds (column 2, line 1). Lemos is clearly a grinding tool and not a cutting tool.

B. Applicant’s Claimed Invention

The problem which is resolved by Applicant’s invention is to overcome the drawback of the device in Brånemark arising because the bone tissue is worked by the edges of the slits 8 and 9 in that prior art device, rubbing against and tearing loose bone fragments, with consequent unfavorable harsh action on the bone tissue (paragraph [0005] of Applicant’s published application). Applicant accomplishes the improvement by the structure defined in the pending claims. This structure relates to the cutting edges and the angles of the slots from the exterior to the interior of the tool.

II. Discussion

In accordance with MPEP 2341.01, paragraph IV, a mere statement that the claimed invention is within the capabilities of one of ordinary skill in the art is not sufficient by itself to establish *prima facie* obviousness. A statement that modifications of the prior art to meet the claimed invention would have been “‘*well within the ordinary skill of the art* at the time the claimed invention was made’” because the references relied upon teach that all aspects of the claimed invention were individually known in the art is not sufficient to establish a *prima facie* case of obviousness without some objective reason to combine the teachings of the references (emphasis added). *Ex parte Levengood*, 28 USPQ2d 1300 (Bd. Pat. App. & Inter. 1993).

Applicant respectfully submits that the Examiner has not provided an objective reason why an individual with ordinary skill in the art of artificial joints and associated anchoring fixtures would look to non-cutting, high speed machine-driven dental abrasive tooth-shaping equipment, which is the subject of Lemos, for guidance in resolving a problem of a bone cutting process arising during the manual installation of such an anchoring fixture. Applicant can find no teaching within Lemos addressing the cutting of bone tissue or indeed, the *cutting* of *any* material, including tooth material. The problem being addressed in Lemos is to improve the flow and distribution of coolant water during operation of the high speed abrasive tooth-grinding process. No structures within Lemos are involved, except perhaps inadvertently and centrifugally in an outward direction, with the flow of even tooth material through apertures. In view of this, Applicant respectfully requests Examiner reconsider and remove this basis for rejection.

Applicant further argues that, even if one of ordinary skill in the art were to look to Lemos, the disclosures therein do not teach or suggest any aspect of Applicant's claimed invention. As noted above, the primary objective of the current invention is to provide a fixture which is improved over that disclosed in Brånemark such that bone fragments will be detached

favorably and inwardly when screwing in the fixture (paragraph [0007] of the published application). Applicant meets this objective by providing specific cutting edges 14.

As the Examiner points out on page 5, lines 3-5 of the Action, “the outermost portion of the trailing wall surface defines a cutting edge at an angle, i.e. approximately 90 degrees as shown in Figure 5 of the reference [Brånemark] relative to the outside of the anchoring portion.” The Examiner further states that Brånemark fails to disclose the device wherein the trailing slot wall is at an acute angle relative to the outside of the anchoring portion with the radial direction and the trailing slot wall surface sloping obliquely forward from within and outwardly in the direction of the rotation. Applicant respectfully submits that such a structure is clearly defined in claim 1: “wherein each slot is defined by a leading slot wall and a trailing slot wall where said leading and trailing slot walls relate to the direction of rotation defined by said screw thread when screwing in the fixture, wherein at least the radially outermost part of said trailing slot wall defines an angle α with the radial direction and slopes obliquely forward from within and outwardly in said direction of rotation.” The angle α is acute inasmuch as it is defined by the slot wall which slopes obliquely forward from within and is defined with respect to the radius.

The Examiner argues that Lemos teaches a device comprising slots that extend from the outside of the device to a cavity wherein the trailing slot wall surface defines an edge at an acute angle relative to the outside of the device with the radial direction and the trailing slot wall sloping obliquely forward from within and outwardly in the direction of rotation and wherein the leading slot wall surface is parallel to the trailing slot wall surface in order to increase the migration of material directed from the outside device into the cavity. Applicant submits that the “edge” referred to above in Lemos is not the same “edge” claimed in the current application but is, indeed, a “surface.” In Figs. 1 and 2 of Lemos, item 37 points to the edge at issue. From column 4, lines 26-30, the trailing side edge 37 that defines each slot has a wall surface 38 that is

inclined so that fluids entering the slot are deflected by the surface into the cavity 24 as the tool is rotated in the direction of arrow 36. In the figures, the line connecting numeral 37 to the structure terminates on the lateral surface of the trailing slot wall. Further, in column 2, lines 36-41, Lemos teaches that it has been found that through the use of appropriately positioned apertures in the wall of the body which are provided with an inclined trailing **edge**, fluids can be projected into the aperture and then deflected by the **edge** into the cavity area (emphasis added).

It should be noted that Applicants cutting edges 14 and the connected slots 9 create and convey cuttings into the cavity 5 of the tool. Lemos, on the other hand, receives cooling fluid, necessarily under high pressure (column 4, lines 39, 40), directed into the non-cutting slots.

The edge referred to by Lemos is the trailing lateral surfaces of the apertures connecting the outside surface of the tool with the interior cavity. It is not the intersection of the outermost portion of the trailing wall surface with the outside surface of the tool, as the term “edge” is used by Applicant in the current invention. The Lemos “edge” is not in any way a cutting edge. Indeed, the problem being addressed by Lemos is described in column 5, lines 59-68, viz., “The high lateral wall speeds encountered in using modern dental drills were found to be so great that water droplets projected into the lateral wall apertures encountered the body surface at the trailing edge of the aperture and were then broken up into a fine mist that was projected radially of the tool under the centrifugal forces involved. This mist had a tendency to obstruct the dentist’s view of the work area....” Designing the tool in Lemos to provide a cutting edge as described by Applicant would not address this problem at all. It is the lateral trailing slot wall surface which is the edge which serves to direct the pressurized coolant water in the manner desired. In view of this distinction between the “edge” as described in the apparatus disclosed in Lemos from the “edge” as claimed by in the instant application, Applicant respectfully requests Examiner reconsider and remove this ground for rejection.

CONCLUSION

In view of the above amendment and arguments, Applicant respectfully requests reconsideration and allowance of amended claim 37, and withdrawal of the rejections of claims 11-14, 16-20, 22-34, and 36 and early passage to issue. Should any issues remain unresolved, Examiner Woodall is invited to telephone the undersigned attorney.

The Maxham Firm
A Professional Corporation
9330 Scranton Road, Suite 350
San Diego, California 92121
Telephone: (858) 587-7659
Facsimile: (858) 587-7658

Respectfully submitted,

Per-Ingvar Brånemark

By:


Lawrence A. Maxham
Attorney for Applicant
Registration No. 24,483